

**PUBLIC CONSULTATION MEETING TO DISCUSS REGULATORY  
APPROACHES TO REDUCE EMISSIONS FROM**

**STATIONARY DIESEL-FUELED ENGINES  
AND  
TRANSPORT REFRIGERATION UNITS**



**January 16, 2002**



**California Environmental Protection Agency**

**Air Resources Board**

## **Agenda**

### **■ Specific Presentations and Discussion**

- ◆ PM Control Technology Demonstration Programs for Stationary Engines
- ◆ Permitted Stationary Diesel Engine Database
- ◆ In-Use and New Stationary Engine ATCMs
- ◆ RACT/BARCT Determination for Diesel-Fueled Engines
- ◆ Transport Refrigeration Unit (TRU) ATCMs

### **■ Workgroup Meetings**

- ◆ Portable
- ◆ TRUs

## **Workgroup Meetings Today Following the Workshop**

### **■ Portable Equipment Workgroup Meeting**

◆ Time: 1:30 to 3:30 p.m.

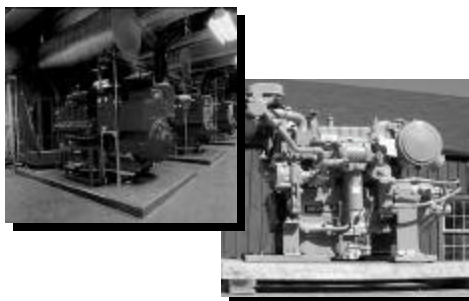
◆ Room 610

### **■ TRU Workgroup Meeting**

◆ Time: 1:30 to 3:30 p.m.

◆ Training Room 2 East and West

## **Preliminary Concepts for Reducing Emissions from In-Use and New Stationary Diesel-Fueled Engines**



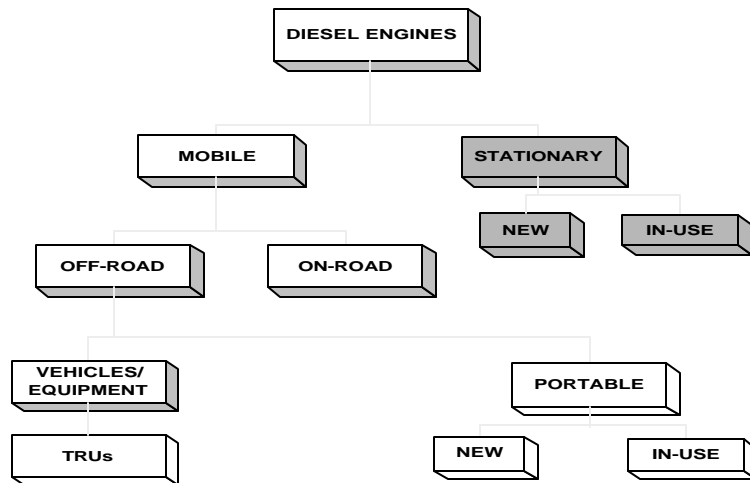
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## Stationary Engines



## Terminology

- **Stationary Engine**
  - ◆ Emergency Standby Engine
  - ◆ Prime Engine
  - ◆ Agricultural engines (E/S and prime) addressed separately
- **Select Portable**
- **New Engine**
  - ◆ “Brand New”- never used
  - ◆ Used Engine moved onsite i.e. new to a facility
- **In-Use Engine**
- **Diesel Retrofit System (DRS)**
  - ◆ Verified under Retrofit Verification Procedure

## **Proposing Two ATCMs be Developed**

### **■ In-Use Stationary Engines**

- ◆ Greater than 50 horsepower

### **■ New Stationary Engines**

- ◆ Greater than or equal to 50 horsepower
- ◆ Less than 50 horsepower

## **Preliminary Concepts for In-Use Stationary Engine ATCM**

### **■ Applicability**

### **■ Preliminary Elements to Include in Regulation**

### **■ Implementation Dates**

## **Applicability**

- **ATCM will address in-use stationary diesel-fueled engines that meet the following criteria**
  - ◆ **Greater than or equal to 50 horsepower**
  - ◆ **In-use Prime Engines**
  - ◆ **In-use Emergency Standby Engines**
- **Separate workgroup evaluating strategies for agricultural engines**

## **Preliminary Elements to Include in Regulation: Establish Registration Requirement**

- **Reporting/Registration requirement for in-use stationary engines subject to ATCM**
- **Registration is necessary to ensure compliance**
- **Inventory will be useful in evaluating residual risk impacts**

## **Preliminary Elements to Include in Regulation: Establish In-Use Stationary Engine Standards**

- **Install Level 3 DRS ( $\geq 85\%$  reduction of PM)**  
**OR**  
**Replace with engine that meets**  
**New Stationary Engine ATCM requirements**

## **Preliminary Implementation Dates for In-Use Stationary Engine ATCM**

- **Begin 2004-2005 timeframe**
- **Possible Approaches**
  - ◆ **Based on model year**
  - ◆ **Based on availability of DRS**

# Implementation Questions

- How will the ATCM address owners of multiple engines?
- Will there be early engine retirement incentives?
- How will the ATCM address rebuilds?
- What, if any, of the ATCMs requirements do owners have to comply with
  - ◆ If they plan on retiring their engine within the next few years?
  - ◆ If they are currently in compliance with the recommendations of the Guidance?
  - ◆ If they already have a DPF installed?

## Summary of Preliminary In-Use Engine Standards and Implementation Dates

	Stationary Engine Applications Addressed by ATCM	Suggested Standards (g/bhp-hr)		Implementation Dates
		PM	[NOx + HC], CO	
		Standard	Standard	
In-Use Stationary Diesel-fueled Engines > 50 hp	In-Use Prime and E/S	Install Level 3 DRS ( $\geq 85\%$ ) OR Replace with New Stationary Engine	TBD	Begin 2004-2005

# **Preliminary Concepts for New Stationary Engine ATCM**

- **Applicability**
- **Preliminary elements to include in the ATCM**
- **Implementation dates**
- **Next steps**

## **Applicability**

- **Proposed ATCM for New Stationary Diesel-Fueled Engines to address all of the following engines:**
  - ◆ **Greater than or equal to 50 horsepower**
    - ✦ Prime engines
    - ✦ Emergency standby engines
    - ✦ Agricultural engines
    - ✦ Select portable engines
  - ◆ **Less than 50 horsepower**
- **Would apply to engine sellers, owners, or operators**



## **Preliminary Elements to Include in the ATCM : New Engines > 50 hp**

- **New prime, emergency, agricultural, and select portables**
  - ◆ **PM: 0.01 g/bhp-hr**
  - ◆ **HC+NO<sub>x</sub>, CO: Consistent with applicable off-road standard for engine model year**

## **Preliminary Elements to Include in the ATCM : Replacement Emergency Standby**

- **New emergency standby engine to replace existing E/S Engine (>50 hp)**
  - ◆ **PM: 0.15 g/bhp-hr until 2007;  
0.01 g/bhp-hr after 2007**
  - ◆ **HC+NO<sub>x</sub>, CO: Consistent with applicable off-road standard for engine model year**

## **Preliminary Elements to Include in the ATCM: New <50 HP Engine**

### **■ PM: Evaluating**

- ◆ existing certification levels
- ◆ best of class
- ◆ special category standards

### **■ HC+NO<sub>x</sub>, CO: Consistent with applicable off-road standard for engine model year**

## **Other Concepts**

### **■ Voluntary (New) Stationary Engine Certification**

### **■ Engine Pre-Certification**

## **Technical Review**

- **To be conducted in 2007**
- **Review diesel engine technology and determine if opportunities exist for additional emission reductions**
- **Take into consideration:**
  - ◆ **Advances in emission control technologies**
  - ◆ **Cost and environmental impacts**

## **Preliminary Implementation Dates for New Diesel-Fueled Stationary Engines**

- **Begin ATCM implementation in 2004**

# Overall Approach

	Stationary Engine Applications Addressed by ATCM/Guidance	Proposed Standards (g/bhp-hr)		Implementation Dates
		PM	[NOx + HC], CO	
		Standard	Standard	
ATCM for New Stationary Diesel-fueled Engines $\geq 50$ hp	<ul style="list-style-type: none"> <li>♦ New Prime</li> <li>♦ New Agricultural</li> <li>♦ New E/S (except replacement of existing E/S prior to 2007)</li> </ul>	0.01	Applicable Offroad Standard	2004
	Replacement of Existing E/S prior to 2007	0.15	(Same as above)	2004-2006
ATCM for New Stationary Diesel-fueled Engines $< 50$ hp	<ul style="list-style-type: none"> <li>♦ New Prime</li> <li>♦ New Agricultural</li> <li>♦ New E/S</li> </ul>	Evaluating Approaches	Applicable Offroad Standard	2004

## Next Steps

- Meet with stakeholders and interested parties
- Draft In-Use and New Diesel-fueled Stationary Engine ATCMs regulatory language - April 2002
- Workshops during the year
- Board hearing - First half of 2003